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CONCERNING THE FORM OF BOSTON
REGIONAL CORE
OCTOBER, 1961
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INTRODUCTION

The Form of a Thing is the result of Forces acting upon it during its making and existence.* The Form is in its purest configuration under the ideal condition, in which the Forces are present in equal measure. When the equality of pressures exerted by the Forces are disturbed the configuration becomes distorted and so does the resultant Form. The Form is no less beautiful, it has merely accomodated that which brought it about. When a Form is created in ignorance of the Forces at work, the result can only be synthetic, of no consequence, and it will not be allowed to exist. The Forces it neglected to obey will bring about its destruction. Inherent in this lies the difference between Design and Form making. Design comes merely as a result of Form and is secondary to Form. The recognition of a number of Forces by one single act could cause a result of enormous force and consequence, conjuring up images of exquisite beauty and would generate the realization of these images and the enhancement of the Form from which it springs. Form realized through the Forces at work could cause the development of a Design so powerful that it in turn will exert Forces which will generate Form at a subordinate scale. Therefore, in knowing what the likely Forces are that the Design will exert, one could reasonably predict the end result of the subordinate Form configuration. In describing the Form of Boston

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D'ARCY THOMPSON - as a biologist
L. I. KAHN - as an architect

little would be accomplished if it is done outside of this realization. For, a single act to either clarify or to strengthen the existing condition is a Force at play which will bring about change; therefore, it is necessary first to come to an understanding of the power of the tools used to create the act and also to realize the "making power" of the existing configuration of the Elements, topo, social values of a time, activity linkage, political activities, etc., in order to realize the possible consequence of the act performed.

This paper therefore briefly describes:

1. The Forces exerted by (a) Movement
   (b) Physiography
   (c) Areas in Existence
2. Application of these Forces in order to describe the Form of Boston - mostly illustrations with graphic material.
3. A Summary of the Problems of the Boston Form

FORCES

I Movement

The need to move and the nature of the movement - long, short, or mood - causes modes and speed configurations of definite quality and Force. The character of movement which these desires and modes create, result in Forms with various capacities for generating activity.* The kinds of activity generated and the functions performed - the Force which it exerts - can best be described in relation to three Disciplines of Movement:**

1. The Road as a Carrier
2. The Road as a City Builder
3. The Road as a Channel of Intelligence.

A. The Road As A Carrier

As Movement - As Stopping

In movement, six Forms can be identified and it is quite likely that a street in its Existence, moves through these catagories as it leads or follows development. The need is a result of the Forces of the technological machine used, and their modes, and of the moods of movement to facilitate the carrying out of activities or to make accessible a resource.

1. The Free Flow Movement

The quality of Form and the resultant force which this long-haul channel brings about is born out of the desire to move swiftly, and uninterrupted over a long distance, in which the interest does not rest with what lies between but onlyywith the need for going from - to. The resultant Form of melodic, even, uninterrupted and uncluttered movement is derived from the limits inherent in the human - machine from and for whom

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* Superceeded by some greater desire of the people and the ability of technology to meet the need.

** I have here consolidated Dave Crane's Four Diciplines into three, combining Channels of Intelligence with Experience in Motion Motion.

it has been created. The limits of speed of reaction at the occurence of an event, ability to see and act, to control the machine laterally at high speed, and the need for concentration and therefore the additional function of the ability of the channel to induce awakeness and place of rest, has created its Form - strong - powerful - exciting - Force Exerting

2. The Go Street

In order to answer the need for swift movement within the metropolitan area, and cores, and in order to facilitate interaction of people at advantageous points of connection - from which they have been dispersed by means of technological development and the increasing inner pressure for independence and choice - leads to the desire to perform a willful and deliberate act of cutting large channels of limited access throughout the city. These are powerful structures, even and direct in flow, great in carrying capacity, impersonal and providing no space for stopping or jerky movement which is unlike the reason for which the go street exists. A free movement, generating joints of great scale and sense of connectivity. The desire to be swift, direct, clearly readable, directional in its movement towards or away will create its Form.

3. Searching Movement

Penetrating, highly personalized, and place related, jerky and particular in its movement, laying bare the place of destination in a highly readable fashion. Finding, generates stopping which should be recognized and become part of the Form concept of this channel and not merely a by-the-way solution. Mostly carrying the automobile but it is conceivable that the search street could become part of the Staccato movement system

4. Staccato Movement

In accepting the stop-go movement performed by the public mode, which is the antitheses of the private mode, a separate channel is required and can be combined with the Searching street. The rhythm of movement is short, the place of stopping and change of mode, becomes a real event which in its Form potential has not been fully realized. No melody - the height of activity, Yes !

5. Walking

The scale of movement changes and with it the amount that can be preceived. "Shopping is walking - walking is also resting - in shade, sidewalk cafe, looking at sculpture exhibited in the garden. Shopping promenades lead to large areas - the sites of theaters, dance halls, bowling alleys, concert halls, places for food and refreshment and places for fun, music boxes, etc." This is the pedestrian

6. Stopping

The locations and forms of parking facilities are derived from the various stopping needs. Long term, short term, service, and foyer stopping are all changes of mode; points of connection which are significant events and should therefore be allowed to find their own expression. The success of finding this expression is a function of how seriously the needs of each of these systems have been sought after, and identified. A recognition of a way of life - our time - beckoning to create the powerful Forms it is capable of making. Forms, which may outlive the functions for which it was created. Forms, so significantly made that it would conjure up images of reuse, not unlike the Baths of Caracalla.

B. The Road as the City Builder

In this lies the realization that each Form within within the system of movement has a capacity to generate use related to its scale and mode of movement - economic activity of large concentrations or, merely places of rest and refueling. Whatever lies between these two extremes are generated, through a single part, or a combination of various Form parts of the movement systems to a force of extreme power, not to be neglected, for its will to exist, develop just that which it is capable to enduce.** Further, it is in the realization of the structional quality of the six movement types that a logical city structure can be made and by which the whole can be ordered.

** Not without considering other forces not yet discussed. And others to be discussed under another work package.

Of even greater significance are the points of connection between the systems. The confluence of a richness of mode - a large and more varied market and a place of recognition including the mixing of groups (which do exist, whether we like it or not). A place therfore of opportunity for bustling economic and social activity, rich in variety and potential. In every case the change from one mode or system to another requires decision and action and therefore is a memorable event and should be given special attention.

C. The Road as a Channel of Intelligence

If the Whole is ordered through the movement system then the movement system in itself should be readable. Cross movement should be differentiated from radial movement, and should have a rhythm of sameness or of relationship, which could make for predictability and therefore ease of movement and decision making. Readability is at large a result of the kind of activity - intensity, the nodal rhythm, and the frequency of joints - attached to the moods and nodes. Clear structure means readability, not only what it is, but also its direction and orientation.

III. Areas in Existence.

In looking at the form of a city one can identify, very clearly, the various eras of life that were lived, by analyzing the way in which the movement system hase been made. Some of the systems are artificial, and merely expressive of the preoccupation of its maker with a design theory, and therefore resulting in a form of universal applicability. Other systems grew with the great concern of answering the need of a people at a specific time; resulting in a very particular and personal form. These - various systems, although they have long outlived the modes of life for which they were created are still capable of answering very particular needs of groups of people. The way in which the areas were made is suggestive of the needs they could best serve. Herein lies the difference between Back Bay and North End; the one a very impersonal system conducive of anonymity, and therefore a quick turnover in population; the other, very particular in form and concern, producing a softness of statement conducive of great unity. In making a new form for a city, or, just adding to the existing form, one should work within the forces exerted by these areas, and, therefore, only with the greatest of care and precision make the incisions of planning action.

II. Physiography - Its Power to Build

Physiographic conditions have, more than one would like to admit, molded the shapes and charadter of cities. They have been responsible for the complete destruction of cities - Nimfa*- as well as being their sole reason for existance. Sun-Wind-Rain-Snow and Topographic configurations are some of the orders of nature and tools for man with which to make. Great and admirable things result out of the genius of man to make within the confines of the forces exerted by these orders. A beginning at which to begi begin; therefore creating not in a vacuum but working within the makers of Life and of Living.

> "The Sun is to tell you when its every day."
> "The Sun is so it can be a great day."**

The Sun means heat, light, and directionality making the south facing aspect most desirable. When combined with a topographical configuration of a north facing slope, it suggests a Form which will allow for great pools and corridors of Sun with development poking their thousand eyes of "sun-seeking" windows into these resources.

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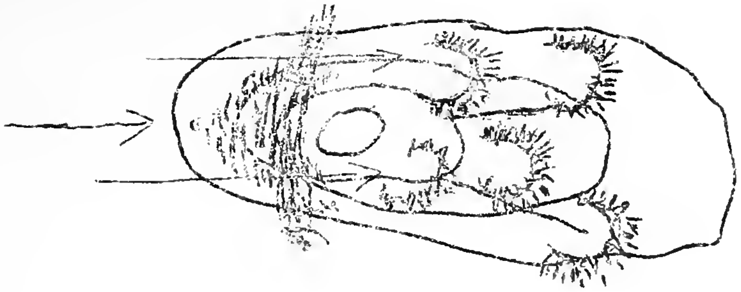
* Nimfa - A small medival town on the Pontian Marshes between Rome and Naples. The existance of the mosquite was ignored - it killed the people, the town, and forced it to move to the top of a hill 300 ft. up - Now Narni

** Ruth Krauss - A hole is to Dig



Pools of Sun

Wind - relief, discomfort, direction; three qualities which are immediate in challenge, in opportunity. In humid hot summers a Form which seeks to induce air movement, and during the cold winters produce shelter, will bring about a philosophy of city - building, which would rely less on the fabrication of synthetic gimmicks only because the challenge of the natural has not been worked with. We may then consider streets not as boundaries but merely as ways of making parts accessible, and thereby making a new dimension available in the leaping of the roads. Then we can start to measure our efforts not merely in terms of a dollar economy, but an economy which is measured also in relation to the Sun and the other elements of nature which works with what it has in order to make it truly significant. This is economy; and I believe, the "Life economy" versus a "Money Economy" in the Mumford plea.

Topography - the apex is different from the base, the slope different from the flat land. The generosity of the flat lands have created many combinations and configurations of use and Form.

The slope is a place of significance in that its possibilities are not broad, it is particular and articulate. It is a dimension which always makes an image and always generates excitement. However, how does slope meet flat land at the base? How does apex meet sky? Connectivity: what makes it and how is it made? The top of the hill has throughout time been a place where man has performed an act which has been related to that which he valued most; at the peak, up there it is like an open hand beckoning to the sky." Let us go up to the mountain of the Lord" - there is a kind of purity, a mystique up there.

Problems of the Boston Form

The Boston Form is an additive one. It has come about with many grunts, and therefore carries the beautiful scars of experience and time. The Downtown has a sort of whittled quality, made with great care and pain, not suddenly but the product of the love of a "thousand" men, all filled with the consuming desire to make. They have made a truly Urban place - however, three main probables in the Boston Form can be identified.

1. The ever reoccuring problem of *connectivity* between Form elements
2. The lack of clear *Readability* of the Form
3. The lack of Recognition of the Form-making Forces*at work

These three Problems represent enormous opportunities in clarifying the Boston Form and will serve to make even more precious that which is dear to the people; not without this generation making its own statement on a scale representitive of its power to build.

Following is a more detailed presentation of the Problems.

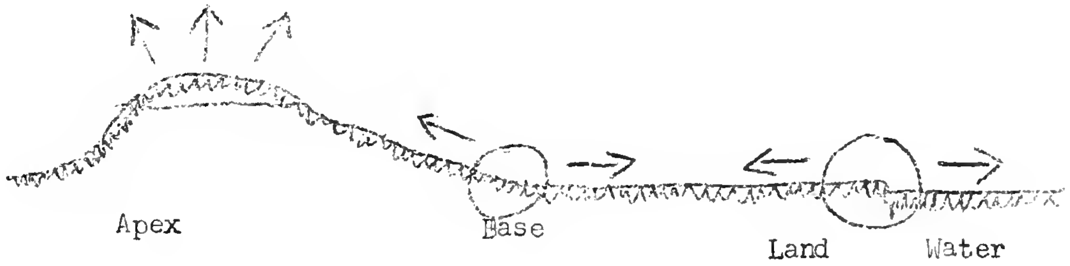
1. The ever reoccuring problem of connectivity between heartland of a use or clearly definite phisiographic condition, usually produces a clearly readible and realizable Form. However, the points of transition between Form elements are where the vaugeness exist. From these edges the destruction of the healthy Form creeps in. These areas occur where a general greyness exist with few people knowing what these elements are and therefore no real concern for the problem

* The Forces I am concerned with in this paper.

In whittling away at these areas where many rich varieties of Form resources come together, a vital system of connectivity could develop which, in its clarity could reactivate the heart land of well established areas.

The areas that call for a positive philosophy of linkage are;

a. Physiographic



There is no clear philosophy as to the use of the

1. Apex of the hill
2. Base where the clope connects with the Flat land
3. And where water meets land

These three areas need to be carefully conceived in use and should be generously planned in order for them to conjure up images of use in a powerful manner. Designs are of little consequence, image and Form must be defined.

b. Movement

Articulation of the connectivity between the various systems through which a greater predictability of a final Form could be realized. This calls for a careful understanding of the hierarchal relationship between the various parts of the movement system and their powers to generate activity.

c. Connectivity between areas

We need to develop a theory of linkage [illegible] between areas of like and opposing uses, establishing those which are common to all - "Universal Scale."

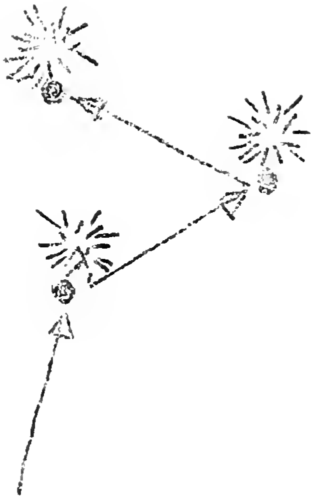
2. The lack of clear Readability of the Form

One of the most difficult elements of the Boston Form is the complexity of its additive road system which causes a continuous element of confusion. Although hierarchies of systems do exist there is no clear distinction between the various Forms of the system. Major cross-town movement [illegible] routes are in appearance, not unlike the short run systems, and so on, mainly because the functions between the systems are not realized.

Some form of act should be performed in Down-town to give it directionality. [illegible] - in Down-town

M. T. A. - In Down-town there is no visual connection with the surface, therefore, no awareness of the place of arrival. Park street is a frightening confusion of relationships. The full potential of the underground as an economy booster and therefore as a forceful structure needs to be realized, and allowed to find its own expression.

Topo - The predictability of the reoccurance of like events in relation to topographic configuration is an unexploited potential.



3. A lack of Recognition of the Form making Forces at work.

a. Phisiographic

Sun, combined with a Northern slope is a potent force in producing decay if the particular problem which the combination creates is not recognized. Although other factors are involved I would venture to say that the decay of elements on the Northern Slopes of Charlestown, Beacon Hill, and South Boston has been brought about by the neglect of just such a combination.
Similarly the tops of hills, most clearly experienced at Parker Hill and Highland Park, where the use is not clearly defined and does not arise out of a need, will cause neglect and the collection of rubble, trash, etc., with sorrowful consequences on the surrounding activity. In both Charlestown and South Boston the topographic and water configuration have created isolated land forms of a dead end type, creating the possibility for developing rather specialized living areas.
In the same vain, one wonders why the Fens have not generated a greater intensity of high income residential uses.

b. The Road System

A great deal of the revitalization of the downtown lies in the pulling together of the Public Web in order to create oristal palaces of activities at the confluence of the various system of movement. These actions at the Public Scale, are the life-lines of the Private development. The car, and its power to build purposefully and clearly and therefore its possibility to generate new image images of architectural Form as well as the rich combination of activity have had no impact The Central Artery is but a small statement of that which it could become an aquaduct generating fountains of spouting activity. A new image - our image - is possible at all levels of movement.

Regional Core
Brigitte Orent
October 18, 1961

THE DISTRIBUTION OF ACTIVITIES IN CENTRAL BOSTON: What has determined their location in the past and what may determine their location in the future.

The problem is:

1. To identify those activities which in the future are to receive location in Central Boston; and
2. to describe the relationship which these activities have to other activities.

The analysis consists of five sections, each of which may be read independently of the other.

1. A theoretical approach to location.
2. A description of Boston's development, 1630-1930.
3. The future economic "base" of Boston.
4. Activities in the future Regional Core.
5. Employment trends in "downtown" economic activity.

SUMMARY:

1. The desired location of an activity depends upon its functional requirements and its social values. The realisation of its desired location may be facilitated or impeded, depending on the economic & political resources which it commands.

2. The historical development of Central Boston lead to the following conclusions.

a. The ease of development is a major determinant of location. Activities locate where land is available at the time they are growing

b. When activities move, they often leave behind in their old location a specialized segment.

c. There are pace-setters in land development; who they are varies in time

d. Public policy has affected location throughout Boston's history.

3. The economic "base" of Boston in the future consists of those activities in which Boston outranks cities with whom it competes.

These activities are education, government, and recreation. Growth in other sectors of the economy is linked to these services. They will be the "pace-setters" in land development. The locational "motivation" and enabling impending factors of these activities is analyzed.

4. Activities in the Regional Core will:

- require frequent face-to-face contacts
- need a small land area
- depend on the assembly of many people
- have time as an important element of production or service
- be in irregular demand
- require the entire region as a market area
- depend on external services
- be attached to historical & symbolic values
- be ancillary to other central activities.

5. Employment needs of economic activity in "downtown" (a much smaller area than the Regional Core) indicate that there will be a decrease in manufacturing and wholesaling and an increase in business & personal services and finance, insurance, and retail estate.

I. A THEORETICAL APPROACH TO LOCATION

A. The distribution of activities depends on WHAT there is to be distributed, which in turn is affected by HOW MUCH there is to be distributed. Then, distribution is determined by what exists on the land, the natural and man-made environment.

What activities ⟶ ⟵ Existing environment natural & man made

How much

B. The WHAT and HOW MUCH depend largely on:

1. The relation of Boston to the rest of the nation and the world.
2. The economy of the area.
3. The level of advancement of technology and knowledge.

These are the origins for pressures for change.

C. The MOTIVATIONS for location are reflected in the degree of desire that activities have for attraction and separation to one another and to special sites.

1. Attractive forces
   a. Functional requirements
      -for site
      -for linkages:
      Types of linkages:
         - competitive (for same market)
         - complementary (interdependent products)
         - commensal (depend on same suppliers, facilities)
         - ancillary (supply each other)
   b. Social values
2. Separating Forces
   a. Functional requirements (nuisance features)
   b. Social values

D. The degree to which the desired location is REALIZED depends on:

1. Enabling factors:

- a. Resources of the activity
    - -Income
    - - Political power

- b. Criticalness of location to survival; vulnerability to competition,

- c. Potentiality of adapting existing environment:
    - - public improvements
    - - public policy
    - -transportation technology
    - - accidents, e.g. fires

2. Impediments

    - a. Lack of resources - poverty

    - b. Inertia, no need for efficiency due to monopoly position

    - c. Social values - prejudice, laws

    - d. Heavy investment in existing facilities which cannot be liquidated.

II. A DESCRIPTION OF BOSTON'S DEVELOPMENT, 1630-1930.

On the basis of the major factors affecting the development of Central Boston, its history may be divided into five periods:

1. Pre-1790 (Establishment)
2. 1790-1840 (Consolidation)
3. 1840-1900 (Transformation)
4. 1900-1930 (Stabilization)
5. 1930-1960 (Decline)

(Note : the following description is fragmentary. It attempts to isolate the major pressures for change in the economy and the resultant impact on land development.)

1. Pre-1790 (Establishment)

Area settled because of good harbor. First landing and houses in Charlestown. Moved to Boston peninsula due to good spring on Blackston's land.

Form of government patterned after charter of the Massachusetts Bay Colony.

Integral part of British imperial economy. Triangular trade: sugar to Boston, rum to Africa, slaves to West Indies. No "bread trade" with hinterland as New York and Philadelphia had.

Traders and artisans. Limited population (10,000 in 1783). Close-knit, walking-distance town.

In 1685 colony became a province with British Governor. This led to first class distinctions. State Street; Governor's mansion; minister's house; warehouses of traders. Market Place at head of State Street. Court Street had the prison; School Street, the school. Washington Street was the highway to Roxbury.

Fortifications at Castle Island, Fort Hill, and on the neck to Roxbury.

Generally, commerce at Dock Square - in the center, and residence spreading north and south along the edge to the North End and Fort Hill. Some industry on Mill Pond (North Station area:) lumber and grain mills, distilleries.

Major determinants:

1. Struggle with England: energies absorbed in struggle for economic freedom and political independence. Little interaction with hinterland or other colonies.
2. Port access: shipping main economic base - link with rest of world.
3. Gradual growth: population increase readily absorbed.
4. Horse transport: relation with hinterland limited; towns developed independently.
5. Topography: hills blocked development.

2. 1790-1840 (Consolidation)

Trade with Orient supplanted former triangular trade: copper, cloth, iron to West Coast; furs to China; tea, textiles, porcelain from China to New England. Based on enterprise of Boston merchants, not on City's natural resources or locational advantages. Vulnerable to competition from New York, which came in the 1820's and 1830's: New York better market for tea; New York developing linkages with west (Erie Canal 1825) stealing Boston's hinterland. Accident: British chose New York instead of Boston as dumping place for surplus goods (wool, hardware, cutlery, cotton) after War of 1812;

this established New Y ork as a wholesale center.

Large amounts of capital in Boston due to accumulations from Orient trade. Led to establishment of finance and banking. 1830-50 Boston ahead of New York as financial center. (1810-20 six new banks established in Boston with capital of $8.5 million) Capital financed expansion of railroads in West and industry in Massachusetts. No industrial expansion in Boston due to absence of water power and prevalence still of "putting-out" system (piece-work in the home). Boston artisans, shopkeepers satisfied the home market only. "Glittering superstructure" of merchant princes used city as base of operations for enterprise elsewhere.

Immigration mainly from New England cities. Limited ean Eupopean immigration (French, German, English) readily absorbed.

Cultural ties with Europe - music, literature, ideas; though gradually independent institutions developing (Handel & Hayden Society 1815).

Development in the Hub. Specialized districts emerging. Drygoods near residences along Hanover Street -- also on route from incoming steamers. 1830's wholesalers and retailers beginning to separate; retailers on lower Washington Street and School and School and Court Streets; wholesalers along Kilby Street.

Residential districts specializing according to income. Wealthy move as old areas become obsolete, get encroached upon by other uses or the masses. Leave old North End 1800-1810 as filling in of West End and levelling of Beacong Hill make those areas available.

The construction of the New State House on the hill in 1795 is the "pacesetter". Mt. Vernon Development Corporation develops the hill, purposefully limits north-south streets to cut off new south side of hill from north side (Nigger Hill) already settled by the poor. The poor gradually take over the North End and Ft. Hill.

Public improvements consolidate the development of the city. Aggressive Mayor Josiah Quincy (1822-1826). Boston became a City in 1822. Quincy built new streets and wharves, Quincy Market, Public Garden; urged filling of land (South Cove 1830) and adequate public water supply (Cochituate Reservoir 1848).

Railroad from quarry to river front in Quincy opened in 1826; made granite available as a building material.

Other portions of city being developed by real estate speculators; but real demand did not come until Irish Immigration in 1850's. East Boston: Noddle's Island in 1830 had one farmhouse; bought by speculator; platted and lots sold in 1833; within three years population increased to 600. South Boston developed by speculators; bought land in 1800, pressured for annexation (1804) though inhabitants were opposed. In 1805 South Boston Bridge Corporation built the toll Dover Street Bridge. 1825 second, free bridge opened; then development occurred. 1830-1850 South Boston the fashionable part of town; huge hotel.

1814 Roxbury Mill Corporation built dam across Back Bay as tide mill and toll roadway to mainland. Railroad built across dam in 1831. But impact of rail development felt only in 1840's.

Major determinants:

1. Union of colonies in federal government resulted in competition between them, especially New York and Boston.

2. Source of income (economic base) is outside the region. Region exports initiative and capital. Results in limited growth in the region.

3. Specialization as a result of the maturation of the economy and society; but differentiation is still very limited.

4. Public improvements expand the land area available for development (South Boston and hill on the peninsula); improve efficiency - new wharves and warehouses; make it possible to sustain large population increase in the future (Cochituate water supply).

3. 1840 - 1900 (Transformation)

Commercial city of 1840 transformed into industrial city; enabling factors heavy Irish immigration and railroads.

Irish immigrants unlike previous immigrants were driven from homeland by despair rather than attracted by hope and adventure of New World. Arrived in Boston in hordes, too poor to move further west; unskilled laborers and servants. Boston population 93,000 in 1840; 137,000 in 1850; heaviest immigration 1845-1855 (230,000 arrived).

Surplus labor stimulated industrialization; Boston's labor wages one-half those of New York in 1860 (Boston: $4.50-$5.50 per week; New York: $8 - $10 per week). The industries which developed were: ready-made clothing; sugar refining; piano and organ manufacturing; foundaries and machinery manufacturing; ironworks; ship building (e.g. employment 86 in 1837; 55 in 1845; 922 in 1855.)

Railroads began to be built in the 1830's. By 1850 seven separate railway lines had seven separate stations in the peninsula in the Kneeland-Park Square area for lines from the south and west and in the Causeway-Haymarket Square area for lines from the north. Consolidation of rail lines into North and South Stations took place in the 1880's and 1890's.

The Irish found a well-built community whose physical, economic, and intellectual climate was entirely unprepared for them. They threatened the concepts of "universal progress" held by the New England transcendalists of the time. The tremendous economic and social cleavage between the Irish and the rest of the population was reflected in the residential pattern. The Irish were crowded into the North End and the Ft. Hill area; they were too poor to afford the 20 cents daily rail commutation fare to outlying locations. They lived in shacks and sheds and in converted warehouses and former mansions. Meanwhile, the wealthy and middle classes used the railroads to commute from the suburbs - Roxbury, Dorchester, Everett, etc., and developed new living areas for their own use. The intense congestion was reduced by the horsedrawn street railway lines in the 1850's. Public laws limited fares on them to a few cents so that the poor could afford them, But by 1872 Ft. Hill was such a disease-breeding slum that it was razed; the tenements were torn down (by the city), the hill removed and commercial buildings were constructed.. Slum conditions had developed partly because of the speculative value of this obsolete residential real estate next to the expanding commercial heart of the city.

Wealthy settled on "colonnade Row" on Tremont Street along the Common in1840; and in South Boston.

South End - planned in 1801, but not completely filled until 1850 (to Northampton Street). Slow in developing. City had difficulty in selling lots at the high prices it had set to ensure upper class occupancy; South End was still too remote. Construction of horse-railroad in 1856 improved access. 1860-1870 high class development. Then city lowered prices to allow "mechanics of limited means to settle there also"; result - cheaper construction along Columbus Avenue, 1870's. By 1885 entirely rooming-house character.

Back Bay - 1814 Milldam built; 1831 railroad across milldam, 1857 fill begun by Commonwealth Water Power Co. and Roxbury Mill Corporation. Completed in 1880. Plan developed 1864 by Gilman. 1859 Committee of Associated Institutions of Science and Art organized to get legislature to set aside land in Back Bay for the "collocation of Institutions" - a cultural reservation. Half of Commonwealth-owned land set aside for institutions. Land sold slowly in Back Bay. 1863 several prominent families make deal with Commonwealth for lower prices as a "pioneer risk"; they'll move to establish confidence in the area. Thereafter land sold. Average price $2.00 per square foot. Commonwealth made $4 million profit. Stability of area due to deed restrictions, institutions. Change due to move to suburbs and taxes.

South Boston, East Boston, Charlestown developed for industry; juxtaposition of rail and water and available land. Result Irish laborers gradually moved in also.

Only Brighton, Brookline, and Malden without direct street-car connection were unaffected by Irish immigration.

Business districts of City shifting, except for financial district which remained at State Street. Dry goods separated into wholesale and retail. Retail remained in North End until 1850's. When it became respectable, it moved up to washington and Tremont Streets, then along Boylston towards Back Bay, after that was filled. Shifted west because higher income population lived in west and railroad tracks blocked development to south. Wholesale district moved south-east. Shoe and leather to Ft. Hill in 1840's; High Street in 1870's; to Lincoln Street after 1872 fire. Wool, Federal and Pearl Streets; regrouped there after 1872 fire; moved to Summer Street after bridge to South Boston opened. Produce around Quincy Market; fish along T & Long Wharf.

Despite two crises - the huge fire of 1872 and the panic of 1873 - Boston continued to be the fourth manufacturing center in the nation (1880); clothing, sugar, iron, candy, meat, printing products. Imported leather, wool, cotton, sugar. Exported products of industrial hinterland: Shoes, cloth, Equalization of freight rates from the west with those to New York improved export of grain; new grain elevator built in East Boston in 1870's.

Fire of 1872 facilitated redevelopment of residential slums and obsolete buildings; 65 acres, 776 buildings, $25 million property value destroyed.

Boston annexed Roxbury (1867), Charlestown, Brighton, and West Roxbury (1873).

Social cleavage between Irish and old population ameliorated during Civil War; both fought for the Union. Nonetheless, the Boston Brahmin's withdrew to Milton, Brookline. Their self-image was the English model "aristocratic elite rooted in the country". Resisted annexation.

Major determinants (1840-1900):

1. Industrialization, faciliated by immigration and rationalization of productive process. "Putting-out" system replaced by factory system.

2. Railroads and street rail lines facilitated suburbanization of population. Social cleavage between new and old population led the latter to flee before the new population. Fled to new land and to suburbs. Income limitations kept the new population within walking distance of industry.

3. Public Policy affected ddevelopment -

    - Filling provided new land
    - Laws regulated street car fares, helped to disperse the poor.
    - Land prices of new lands were fixed
    - Institutions were given land by the State,

4. 1900 - 1930 (Stabilization)

Institutions grew as the population and economy expanded. The development and migration of institutions really covered the period from 1850 to 1920. Originally most of the institutions of the City were located in the Hub - meeting - houses, churches, schools, hospitals, were interspersed with residences and commerce before 1850.

The first major move was to the area surrounding the Hub, South End, Back Bay -- in the 1870's; the final step was still further out to the Fenway, Cambridge, Watertown - in the 1910's. The migration of Harvard Medical School illustrates the development of the City: founded in Cambridge in 1783; moved to lower Washington Street; and then to Massachusetts General after that was founded (1812); moved to Copley Square in 1883, in back of the Public Library; moved to Longwood Avenue in 1910. The moves were precipitated by internal reorganization and expansion, and by the opportunity to establish desirable linkages with other institutions.

New institutions were established in the areas to which others were moving at the time; Boston College to the South End, next to City Hospital in the 1860's; moved to Newton 1914. Public Library at Copley Square. Churches moved to South End and Back Bay from downtown. City Hospital in South End 1864; at Long Island 1920's. The Art Museum at Copley Square 1876; moved to Huntington avenue 1909. Boston University started downtown at Somerset Street; moved to Copley Square; later to Commonwealth Avenue on the Charles. M.I.T. started in the Back Bay 1860; moved to the Charles 1910. Perkins Institute for the Blind started in South Boston 1860; moved to Watertown 1920 (?). Carney Hospital moved from South Boston to Mattapan; McLean Hospital moved from Mass General to Belmont. Wentworth Institute 1904 on Huntington Ave.

Reasons for institutional moves; expansion room, desire and resources to create symbolic buildings. Often in the move, some of the old activity was left behind, e. g., Boston University Law School still on Somerset Street, also still has college at Copley Square. Mass. General and City Hospital both of which established suburban outposts while retaining their central location.

The same has been true of commercial developments; the new Fish Pier in South Boston, set up in 1914 and the Produce Market in South Bay (1950's) both relocated major shares of the activity; but some of the more specialized activities also [illegible] remained in the old location, e. g., shell fish on T. Wharf.

This period of stabilization had no new major economic developments; rather it was a period of improvement and infilling, much as the early 19th century had been.

Mayor Nathan Mathews 1891, like Josiah Quincy, was aggresive in pushing public improvements. The street railways had been electrified in the 1880's. In 1897, the first subway was built; and in the following years the transit system was completed to its present limits. Charles River improvements, laying out of new streets, consolidation of rail terminals, completion of the Park system: all these ushered in the 20th century.

Jewish and Italian immigration from 1880 on filled in the North and West Ends from which the Irish were moving to surrounding communities.

Although the economic power in the City was still in the hands of the old Yankee population, the Irish were rapidly gaining the political power with which to right the balance, e. g., Mayor "Honey" Fitzgerald and Curley.

Institutional expansion in the 1910's was followed by extensive commercial expansion in the 1920's. Extensive office construction downtown in 1920's, e. g., United Show Building.

Major determinants:

1. Institutional expansion on available land.
2. Dispersion of population along transit and streetcar lines.

5. 1930 - 1960 (Decline)

Impact of automobile much accelerated obsolescence of old city and facilitated development of new land.

Depression and War bottled up demand for new development. This required creation of supply rapidly in post-war years; only possible on vacant land, not available in City.

High cost of operating obsolete facilities raised City's tax rate to prohibitive levels.

Absence of new migrants to City resulted in lack of demand for housing, high vacancy rate and lack of maintenance.

Conclusions.

1. There are alternating periods of infusion of new people, new technology, etc, and periods of consolidation
   Example: Pre--1790 & consolidation 1820's.
   1840-60 Industrialization and stabilization 1910's
2. Activities locate where land is available - if they are growing and have the resources. The ease of development is a major determinant of the location of activities.

Example: High income population to S. End & Back Bay; Institutions to Fens; Electronics to Route 128.

3. When activities move, they often leave a specialized segment in the old location.
   Example: Fish, Produce Markets, Boston University

4. There are pace-setters in each period, depending on the values of the times. Sometimes the pace-setters get themselves out on a limb and succeeding development does not catch up as they had anticipated.
   Example: Huntington Ave. - institutions surrounded by poor housing. Temple on Commonwealth Ave. surrounded by industry. The South End.

5. The aggressive leadership of public officials lays the foundation for future expansion.
   Example: Mayors Quincy and Mathews

6. Public policy has affected location.
   Example: Fares on street railway lines
   Land prices in South End and Back Bay
   Pressure of real estate speculators for bridge to South Boston, etc.
   Donation of land to institutions.

III. THE FUTURE ECONOMIC BASE OF BOSTON

The growth of the economy of Boston will be based on those sectors in which Boston outranks other cities with whom the City competes.

In a mature metropolitan economy like Boston, the economic "base" consists primarily of services. Production and distribution functions linked to these services are replaceable and interchangeable. (for example, electronics took over from textiles.)

The services in which Boston will outrank its competitors will be education, government, and recreation. These will be valued nationally because:

1. We are changing from a production to a consumption economy in which the major question is not how to get more goods and leisure but what to do with what we have.

   Freedom from economic necessity will make it possible for business as well as individuals and institutions to base their decisions on values. The definition and expression of these values will become prime objectives. Education and recreation have an important role in this; government also, will be a means of expressing non-economic values.

2. Government will be important because of the stage of our economic development. Many key decisions will be made in the "ballot box" rather than in the market place. The federal government in particular will have an increasing role in the redistribution of income geographically and functionally.

3. The continued competitive struggle with communism makes the partnership of education and government important. National policy will determine the allocation of resources to push ahead the frontiers of human betterment, of technology, and of space. Progress in these areas depends to a large extent on our educational institutions.

Other growing activities in the area will be linked to these three services, education, government, and recreation; they will include electronics, printing, insurance, industrial and medical research, etc. In addition there will be other economic enterprise which will exist for historical reasons, for example, finance, or to serve the urban agglomeration, [illegible] for example, utilities.

The critical services - education, government, and recreation will be the pace-setters in causing changes in land development. Other activities will follow their lead but may have a larger overall impact on the pattern of settlement.

The locational determinants for the location of these services have been examined in some detail.

1. Education

A. Types
    elementary
    secondary
    college
    post-graduate (technical & liberal arts)
    special; secretarial, drama, business, etc.

B. Motivation for location
    1. Concentrating forces
        a. access to transit, airport
        b. linkages:
            -Complementary
             industry; publishing, printing, electronics
             bio-chemical, etc.
            Recreation - concert halls, studios, areaas,
            open space lectures
            Research - computer, physics
            Business offices - secretarial, etc.
            Associations, foundations
            Other institutions - medical, library
            religious, museums
            Ancillary
            Residence
            Retail
            Hotel-Motel

c. Site- central location for regional serving institutions

d. Values
- Education as a mixer, to bring together different elements in the population.

-Education a means of upward mobility

2. Separating forces

a. Large land area required for amenity.

b. Extensive parking to accommodate high-priced faculty

c. Desire for district identity, separate facilities, symbolic

d. communication time not a factor for liberal arts colleges.

C. Enabling Factors

1. Income -
Federal support (Hill-Burton, NHA, NIH, Atomic Energy Commission, etc.)
Tzx Support, exemption

2. Political power -
Access to emminent domain powers through urban renewal or legislature

3. Other -
Loyal alumni in business & government
Recognized national value

D. Impediments

1. Heavy investment in existing specialized facilities; land to liquidate; little room for expansion

2. Land-locked; little room for expansion

3. Non-tax paying: therefore, town-grown conflicts. Eggheads.

2. Government

A. Types
1. Administration
a. Local-city hall, school committee
b. State - Governor's office, commerce, health, public works, welfare, etc.
c. Federal -- Federal Reserve Bank, Post Office, Internal Revenue, etc.

2. Indpeendent Activities, Agencies
   MTA, MDC, BRA, BHA, Turnpike, Port, etc.

3. Legislative Assemblies
   General Court
   City Council

4. Political headquarters

5. Courts

B. Motivation for location

   1. Access - transit (mass assembly) airport
   2. Linkages
      a. Courts - lawyers, bonding houses, clinics, welfare agencies
      b. Administration - professional consultants, engineers, tax consultants, trade associations: unions, business services - printing, data processing.
      c. Legislatures - TV & press, hotels, lodging houses, entertainment, public assembly halls

   3. Values - identify with historical values

C. Enabling factors & impediments
   1. Eminent domain powers
   2. Reluctance to increase taxes to pay for new public facilities

3. Recreation

A. Types
   1. indoor
      - commercial amusements: movies, bowling, sports arenas
      - cultural activities: museums, concert halls, theaters, historical sites.
      - Public meeting places: lecture halls, auditoriums
      - clubs: social, fraternal, athletic, YW-YMCA
      - Religious centers: churches, parish houses

   2. outdoor
      - playgrounds, local parks, swimming, skating, athletic fields
      - beaches, lakes, boating facilities
      - reservations, golf clubs, ski trails
      - Drive-in movies, race tracks

B. Motivation for locations
   Access parking; public transportation

B. Motivation for locations
  1. Access - parking: public transportation
  2. Linkages
    - Residential, especially to areas occupied by the population group which patronizes the facility
    - Hotels, motels
    - Retailing
    - Eating & drinking establishments
    - professional offices & studios

3. Site
  - Conspicuous site desired for identity. Reliance on vuluntary support makes public image important

4. Values
  - Symbolic
  - Attached to historical location, tradition for prestige

C. Enabling factors
  1. Social organization in future likely to center on leisure-time & community activieies rhater than ethenic or geographical identification

  2. Consumer expenditures for leisure-time activities are rising.

  3. Accumulation of funds over long periods of time, endowments, etc.

  4. Public support increasing - Kennedy, the Arts . Festival

D. Impediments
  1. Local apathy & antagonism to "culture."

  2. Reliance on donations & public support limits resources.

IV. ACTIVITIES IN THE REGIONAL CORE

A. For the purpose of the distribution of activities, the Regional Core of Boston is assumed

1. To have high accessibility by highway and transit and air
2. To be approximately in the center of the urbanized area.
3. To consist of a relatively small land area.
4. To be historically significant .
5. To be a symbol of the Boston Metropolitan area.

B. Therefore, activities which will be appropriate for the Regional Core will be characterized by:

1. Frequent face-to-face- contact with other establishments. Judgement will be important in the performance of the activity e. g., investment firms, advertising firms.
2. Need for a small land area. Either the establishment will be small or it will be possible to perform its functions in a high building.
3. Dependence on the assembly of many people, as customers, workers, visitors, e. g. , department stores, insurance companies, exhibitions.
4. Time as an important feature of production or service, E. G. , printers, newspaper & milk distribution.
5. Irregular demand, so that contraction & expansion must b be easy (sub-contracting, rental space); e. g. , seasonal or fashion products & services.
6. Reliance on the entire metropolitan area and region as a market, e. g.. highly specialized product, such as a taxidermist, high-priced jewelry.
7. Dependence on external services - messenger, cafeterias, sub-contractors, e. g. garment industry.
8. Attachment to the historical & symbolic values, e. g., government, institutions.

9. Ancillary to other central activities, e. g. stationary and office furniture dealers, lunchrooms, bars.

C. Activities which will generally not be appropriate for the Regional Core will :

1. Require a large land area
2. Serve a national rather than a metropolitan market.
3. Manufacture bulky goods
4. Store & distribute goods to the metropolitan area. (However, if the time is critical in the distribution, a central location may be required.)
5. Serve residential areas, e. g., schools, shopping, community services.
6. Be a nuisance to neighbors: noise, odor, dust, smoke.

D. Potential Central Activities

1. Education
    - non-residential technical colleges
    - graduate schools
        - law
        - engineering
        - medicine
        - social work
        - business
    - Special Schools
        - secretarial & business
        - drama, music, art, dancing
        - barber, wig-making, etc.
    - Specialized high schools
    - Adult education

2. Recreation
    - Indoor: cultural activities
        - museums
        - concert halls
        - historical sites
        - theatre
        - music, art studios
    - public meeting places
        - meeting and lecture halls
        - exhibition halls
        - convention halls
    - commercial amusements
        - sports arenas
        - movies
        - bowling
    - clubs
        - fraternal organizations
        - social clubs
        - athletic clubs
        - YWCA, YMCA

Outdoor:
  - parks
  - parade & exhibition grounds
  - marinas

3. Government
   - Courts - county, state, federal
   - political headquarters, party offices
   - Legislative assemblies
     - General Court
     - City Council

   - Independent authorities and agencies
     - MTA, BHA, MDC, Park, Turnpike, BRA

   - Administration
     - City, Mayor's office, School Committee, City Hall
     - State - Departments of commerce, health, etc.
       Governor's office, Attorney General.
     - Federal - Federal Reserve Bank, Post Office, Internal
       Revenue, Veterans Administration., etc.

4. Finance

   - Banks
   - Investment houses, brokers
   - stock exchange
   - Insurance

5. Business Services

   - Advertising
   - Accounting
   - Blue printing
   - Date processing
   - Employment agencies

6. Professional services

   - Lawyers
   - Architects
   - Engineers
   - Doctors, dentists

7. Institutional administration

   - Associations, councils, foundations
   - Welfare agencies
   - Religious headquarters

8. Retailing

Mass purchasing: bargain basements, department stores
specialized products: taxidermist,
antiques, [illegible]
Comparison shopping for expensive items:
cameras, fur coats, jewelry

9. Consumer Services

Barber, beauty shop
electrolysis, chiropodist
shoe, watch, luggage repair
restaurants, bars, lunch canteens

10. Residence

Dormitories - linked to institutions
hotels - transient accommodations for persons with business downtown.

Apartments:

1. for households with small space requirements (no car, no children needing outdoor pplay space.)
2. for persons for whom time to job is critical e. g., interns on call; press & TV employees; professionals for whom time is money e. g. , doctors lawyers
3. for persons dependent on central services, e. g. retired people - entertainment; poor people, health & welfare services.

4. for any others who can afford central rents.

11. Manufacturing

- Small, custom-made products: picture frames, jewelry
- Face-to-face contact required with downtown customers: printing, garment industry
- Declining activities: (leather, garments)
- Water-transported raw material processing: sugar, [illegible]

12. Wholesaling

- Wholesalers without stock, manufacturing sales representatives; display rooms.

- Distributors to consumers (rather than other businesses) in the metropolitan area for whom delivery time is an important factor: newspapers, milk, fresh produce
- Distributors to downtown businesses,e.g.restuarant equipment

13. Utilities
    - Power relay station
    - Employers many female workers: telephone exchange
    - Administrative offices

14. Terminals
    - Parking
    - Air-helecopter
    - Transit
    - Truck-only for small products to be distributed in metropolitan area

V. EMPLOYMENT TRENDS IN CENTRAL ECONOMIC ACTIVITY

The following material was prepared for the Central Business District Plan. The employment figures for 1947 and 1957 were obtained from the Department of Employment Securities through the Greater Boston Economic Study Committee. The projections were made on 1) a straight-line basis (projection of absolute increase or decrease) and 2) on the basis of the share of the activity in the metropolitan area located downtown.

"Downtown: refers to an area slightly smaller than our "C.B.D.". Both "downtown" and the "C.B.D." are much smaller in area than the Regional Core (the C.B.C. has approximately 800 acres; the Regional Core, approximately 3,000 acres). The major difference in employment is institutional and other uncovered employment. No trend analysis has been done for these activities in the Regional Core, though we know they are expanding.

It should be noted that some of the activities which are indicated as declining "downtonw" may be relocating and expanding in other portions of the Regional Core, for example, food manufacturing.

DOWNTOWN EMPLOYMENT - 1975 - BY TYPE OF EMPLOYMENT

Total Covered	Number	Per Cent of BSMA
1947	195,000	26%
1957	179,000	22%
1975	150,000	16%
(alternative)	(165,000)	(18%)

Total developed from regional labor force projections.

1. Primary Production	Number	% of Downtown
1947	10,280	5.2
1957	6,836	3.8
1975	2,700	1.8
(alternative)	((3,000)	

If this activity continued to decline at the rate at which it has been declining the last ten years, there would be none downtown by 1969. However, it is likely that some offices of agricultural, fishing, mining, and construction firms will remain downtown.
The projected 2,700 is slightly less than a straignt line projection yields.

2. Manufacturing
   a. Apparel

1947	13,940	7.1
1957	10,870	6.0
1975	6,250	4.1
	(6,900)	

Decline at present rate relative to metro area result in 3,400 in 1975. The losses in employment downtown have been due to firms going out of business rather than moving out of downtown. However, this activity is growing more out of downtown than in it. The manufacturing is being subcontracted to cheap labor areas such as Lowell or Nashua; and the industry is moving South. Nonetheless, the women's apparel industry could be retained downtown if new space is available at reasonable rents and the physical environment is improved.

b. Printing	Number	% of Downtown
1947	9,700	4.9
1957	7,730	4.3
1975	5,500 (6,000)	3.6

Printing had declined because of business mergers and failures rather than moves out of dtn. Like the apparel industry, the printing trade depends on speedy, face-to-face contacts with customers; also, it is specialized and there is extensive subcontracting. Thus a downtown location is suitable for a good portion of the industry. Nonetheless, there is a shortage of good buildings with proper floor loads at suitable rents. Decline at present rate would result in 3,900 employees in 1975. The forecast is optomistic; it is based on the assumption that suitable space will be made available and the rate of decline will be reduced thereby.

c. Food

1947	3,270	1.6
1957	1,740	0.9
1975	600 (800)	0.4

Employment in the food industry has declined primarily due to increased mechanization. The latter also fosters one-story plants which are easier to put up in the suburbs because of land costs. Furthermore, with mechanization nearness to market rather than to labor has become a determinant of location. A straight line projection indicates no employment in this category by 1967. This projection has been modified upwards since it is unlikely that no employment in this category would be downtown.

d. All Other

1947	9,580	4.9
1957	6,480	
1975	3,000 (3,300)	2.0

A continued decline is anticipated. In fact, if the rate of decline of the past ten years continues, there would be no employment in this category by 1970 downtown.
This category includes the leather industry which is in a national slump; in addition, taxes and labor costs are driving it out of downtown. Other mfg. firms, e.g., electrical apparatus, as they grow in size and do less subcontracting leave downtown.... Nor is dtn. attractive as an "incubator" since the suburbs also have old space available at less cost.

Manufacturing Summary:

Manufacturing has a dim future downtown except for those firms requiring low wage, unskilled labor and those whose market is downtown, e.g. printing. For the rest, GBESC has this comment to make about the decline in this category: "Much of this decline has been the result of economic forces which have their origin outside of the downtown and while local problems such as high taxes, obsolete facilities and traffic congestion may have intensified the effects of these trends in many industries, it does not seem likely that local action could have checked or reversed them."

4. Transportation, Communication

	Number	% of Downtown
1947	21,290	10.8
1957	20,820	11.6
1975	18,250 (20,000)	12.1

A projection of the share of the metro area that this activity has been over the last ten years would be 15,800 employees downtown in 1975. A straight line yields 20,000. As indicated, this activity is likely to be a slightly larger share of downtown employment in the future than at present.

5. Wholesaling

1947	25,610	13.1
1957	20,960	11.6
1975	7,950 (8,800)	5.3

Like manufacturing, this activity is declining downtown largely because of changes in its functioning. As an activity it is declining in impt. in the national economy. The function is increasingly performed by large firms; the small distributors are decreasing. This is partly due to fewer and larger retail stores. Sales and goods-handling functions of wholesaling are becoming separated in offices and regional warehouses, instead of the old pattern of stocks in dntn. loft space. With vertical integration in manufacturing, the sales and distribution is handled by the manufacturer rather than by a wholesaler. Furthermore, manufacturing sales offices have no strong reason for being downtown.

5. Retailing

	Number	% of Downtown
a. General Merchandise		
1947	14,155	7.8
1957	14,590	8.1
1975	12,700 (14,000)	8.4
b. Apparel, Accessories		
1947	8,350	4.2
1957	5,700	3.8
1975	2,700 (3,000)	1.8
c. Eating and Drinking		
1947	9,200	4.7
1957	7,780	4.3
1975	4,950 (5,500)	3.3
d. All Other		
1947	9,230	4.7
1957	7,620	4.2
1975	4,950 (5,500)	3.3

Despite the loss of two major department stores, employment in the general merchandise category increased slightly. This trend seems likely to continue, i.e. reduction in the number of stores but slight growth in remaining ones with about the same employment. Apparel and Accessories declined quite sharply; Eating and Drinking, slightly. Among All Other, surprisingly downtown sales in home furnishings and cameras were a greater share of metro sales in 1954 than a decline at the rate of the past ten years in its share of the metro area would indicate 3,400 employees in this category by 1975. "Convenience" goods retailing will probably continue to follow population to the suburbs. "Shopping" goods, i.e. luxury and style items in which comparison shopping is prevalent, will remain downtown. (Probably the above projections should be revised; genl. merch. reduced and Apparel and Accessories and All Other increased to reflect the anticipated growth of specialty stores).

6. Business and Personal Services

	Number	% of Downtown
1947	23,410	12.0
1957	26,160	14.5
1975	34,600	23.0
	(38,000)	

Even though this category is increasing in employment, it is nevertheless a smaller share of metro employment of this type. However, it can be expected to continue to thrive downtown.

7. Finance, Insurance, and Real Estate

1947	36,600	18.7
1957	41,620	23.2
1975	45,750	30.4
	(50,200)	

By 1975 this category will be the major employer downtown. Not only can it be expected to increase slightly in employment, but also with increased mechanization in banking and insurance the space needs of these activities are likely to increase.

Summary

It is apparent that while total employment downtown will decrease only slightly, there will be significant changes in the type of employment downtown. The difference between those activities with small employment and those with large will be much greater in 1975 than it is in 1957; that is, downtown will be more specialized. These changes in type of activity may well have significant impact on the physical setting required to accommodate them.

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Regional Core
Tunney Lee
October 18, 1961

BUILDING TYPE AND ADAPTABILITY

For the purpose of identifying potential in the existing building stock, the building types have been borken down into several classifications more or less describing the structural tyes and the kind of adaptability. The exactness of the classification has been limited by the information in the Sanborn Atlas and the size of the area studied. In the next level of study, the categories should be more exact and specific in describing the types and adaptability.

The classifications are: fireproofed and unfireproofed office type buildings, fireproofed and unfire proofed loft type buildings, specialized buildings, masonry and frame residential buildings.

Specialized buildings are those built for a specific reason and which have special physical requirements or symbolic significance and which do not lend themselves readily to other uses. Buildings of this type are churches, arenas, theaters, power housed, armories.

The residential classifications are masonry and frame which give a general indication that masonry residential buildings are generally more adaptable to other uses than frame.

Office-type buildings include all thos buildings which are light-seeking - i.e. buildings which are primarily oriented to people and need to be related to natural light. These are offices, apartments, hotels, schools, hospitals, etc. The adaptability of office-type buildings is most readily to other types of light-seeking buildings.

Loft-type buildings are those buildings which are primarily goods or function oriented, although people are involved in these buildings, their needs are secondary and therefore relation to natural light is not a primary consideration. Buildings in this category are lofts, warehouses, department stores. With the development of efficient means of artifical light and ventilation, buildings of this kind have become adaptable to uses other than those in their own category. Offices requiring large labor pools and combinations of classrooms and research laboratories can now occupy loft-type spaces.

Fireproofedness and its opposite generally indicates the dedegree of physical change possible, necessary, or desirable. A fireproofed building can expect a larger remaining life and therefore can undergo more extensive physical changes.

The analysis of the existing building stock has only described the adaptability of the building itself. However, other factors such as improved accessibility, parking, loading facilities, nearby improvements or new construction may lead to a re-use of the building without any physical change.

Regional Core Study
W. E. Barbour
Oct. 20, 1961

REGIONAL CORE STUDY

TRANSPORTATION AND MOVEMENT

I. Problems, Trends, Issues in the Movement Systems

Not only is adequate transportation necessary for the survival and revival of Central Boston, but it largely determines the very design of the city - its physical form and function. Boston is traditionally a transit-oriented city with a well developed system of mass transit and commuter railroads serving respectively the urban areas and outlying suburbs. The land use pattern of the city center reflects this past emphasis on mass commuting.

In recent years mode of travel and travel patterns have been changing radically, accompanied by decentralization of most downtown activities and a manifold decline of the urban center. The future of this area can easily be predicted by projecting current trends in downtown travel and employment - a gloomy forecast. Current trends must be understood, but not allowed to dominate. The hoped-for regeneration of Central Boston must assume some reversal of trends and will require (among other things) some radical new massive inputs in transport facilities.

(1) Trips to Downtown since 1945 (see chart)

(Downtown is the outer cordon - Boston from

Mass. Ave. east, and the area for which data is available. The CBD is the smaller core within downtown, as defined in the CBD report. Data for the central area of 5 GNRP's can be derived by extrapolation.

(a) Total travel to downtown for the period 1945-60 has declined by 130,000 person-trips or 187. (from about 720,000 to a current 590,000 person-trips, through movements excluded.) This is part of a long term decline in downtown travel since the 1920's which is still going on at the rate of about 5,000 per year. This may be taken as a reflection of concurrent declines in downtown employment, business activity, valuation, and intown residential occupancy. The trend from transit to auto travel has not tended to reverse this overall trend but, on the contrary, has contributed to it.

(b) MTA commuting to downtown for the same 1945-60 period has halved (from 392,000 to 196,000 person trips), but the trend has now almost leveled off, partly due to opening of Riverside line. MTA now carries only 1/3 of total trips to downtown as against 55% in 1945, but still handles the bulk of CBD work trips. It has now assumed

the special role of handling peak hour work trips to the CBD and other transit-linked employment centers, and to some extent intra-downtown trips.

(c) Railroad commuting over the New Haven, B & M, and B & A has declined from over 60,000 in 1945 to a mere 17,000 in 1960. Private rail commuting will cease altogether in the near future, it is universally predicted, unless government aid and/or ownership rescues it. The vast rail passenger deficits are absorbed by freight receipts thus tending to price the 3 private carriers out of the goods-hauling business as well.

(d) Bus commuting (other than MTA) has increased from around 5000 to around 7000 person trips, but is a miniscule part of total downtown travel.

(e) Truck travel to (not through) downtown is thought to have remained close to its 1945 level of about 25,000 person trips. Increases in truck trips due to the general shift from rail to motor freight have been compensated by increases in size of units and a general departure of industry from downtown.

(f) Private passenger car travel to downtown has increased over 50 percent in the 15 year period and by 1960 stood at around 350,000 person-trips per day (derived from B. C. Sem. data). Rail and MTA losses have been absorbed by auto travel,

particular in off-peak hours and for non-work trips. Above figures exclude the growing volume of traffic through downtown, which may be as high as 130,000 person trips (mostly using expressways) and is increasingly a cause of highway congestion. Baring major improvements in mass transit the future is likely to see a continued shift to auto commuting.

(2) Parking Capacity & Demand

Total downtown parking of all types now stands at about 36,600 spaces, including some 4000 illegal spaces. The CBD has a total of 26,700, incouding some 2800 illegal sapces. Facilities now under construction or programmed will add 11,000 spaces giving a grand net total of 47,500 for downtown and 35,500 for CBD. Some 24,000 spaces in downtown will then be in parking structures scattered about the CBD, with another 12,000 in open air lots, mostly in CBD fringe. It has been City policy to provide medium capacity parking structures in the heart of the CBD.

Parking demand peaks at about 2 P.M. on work days, when total destination traffic stands at about 35,000 vehicles (from '54 Cordon updated to 1960). Assuming 10% of this moving on streets, the balance, or about 31,000, is roughly the total peak downtown parking demand. Spot checks indicate

that at least the inlying facilities are filled to capacity during working hours, but these are mostly empty in evenings excepting in the Back Bay, where evening demand far exceeds supply. Also too many inlying spaces are tied up by all-day parkers, forcing short term parkers to outlying facilities and thus impairing the accessibility of the retail core for shopping. Rate control is attempting to correct this problem.

Observations and Conclusions

1. Traffic load on local streets of downtown (with a few exceptions) is roughly the same as in 1954, s suggesting that increases in downtown destination traffic as well as through traffic are being taken by expressways. Many local streets have excess capacity although it is not being used efficiently. Certain re-alignments or interruptions of streets may be possible to change their function from traffic to merely access after expressways are built. More crowded than in '54 are streets serving parking facilities, which (unfortunately) are also business streets in the CBD.
2. Traffic load on expressways to and through downtown has been increasing. There is an undercapacity at peak hours on all expressways and it is feared other expressways will become similarly overcrowded soon after they are built. This problem can be

coped with by either building additional expressways, or reducing peak hour demand through use of mass transit and the staggering of work hours to level off peaks.

3. <u>Dispersion of Downtown Destinations</u>
   Total daily person-trips to the CBD have declined by about 30% during the 1945-60 period as against an 18% decline in travel to downtown. Travel to the 5-GNRP study area has probably declined less than has downtown due to recent expension of institutions. One may therefore conclude that there has been a dispersion of activities, not only throughout the metr. area, but also within the regional core. Such a change is to be expected as a consequence of shifts in mode of travel and one may safely predict an acceleration of such dispersion with the completion of the expressway system. This trend conflicts with the compact high density core concept enunciated in the CBD report, a concept to strengthen the single greatest advantage of the CBD over all other locations -- centrality.

4. <u>The Truck Traffic Problem</u> is declining for the downtown because truck generating activities have been dispersing. But truck movements still cause excessive congestion due to inadequate <u>cross-town routes</u> (the Inner Belt may correct this) and to lack of <u>off street loading bays</u>. On-street goods

delivery wastes essential capacity of downtown streets. This problem can generally be coped with only through redevelopment. But partial relief is obtainable through night delivery or at least off peak delivery. Both are being done increasingly, especially for bulk goods handling.

5. Dispersion of Activities generally throughout the metr. area is the dominant long-range trend resulting from and causing changes in modes of travel. Downtown is the one area which can easily be linked to all other parts of the city by rail transportation. It can continue to attract those functions that have a special dependance on same (i.e. the large person generating activities), given reasonable improvement in mass transport. Without those improgements the reverse can be expected.

   Non-transit oriented functions--especially industrial and goods handling activities---are dispersing from downtown. Downtown in the future can be largely free of goods movements (except for those relating to retail functions). Goods oriented functions can be expected to group themselves in the "frame" of the regional core in those locations that have (or soon will have) the highways, rail freight lines, and port facilities to serve them, namely in South Boston-South Bay terminal area, north terminal area, Allston, and East Boston.

II. Specific Transportation Proposals and their Status

A. Highways

Excepting the Turnpike, all expressways listed below are the responsibility of the Mass. DPW. All freeways are financed by state bond issue paid off through proceeds from state and federal fuel taxes. Routes I90, I93, I95, and I695 are part of the federal interstate system and authorized to receive 90 percent federal reimbursement. Others receive 50 percent federal reimbursement. The federal aid is contingent upon the linking up of I90, I93, and I95 by means of I95 and the meeting of federal design standards.

The above system of inner loop distributor and 8 radial expressways was proposed in the 1945 Master Highway Plan and is now about half built. Similar systems are being built in many other cities. In 1959 the unfinished part of the system was subjected to intensive study by two engineering firms who proposed alternative route locations, including ramp locations, for each facility. These are now "under study" by the DPW and are likely to remain so until there is a change in the legislative majority or a new DPW Commissioner. All expressways are subject to last years highway appropriation act which gave nine communities veto power over any

state route. The Inner Belt has since been vetoed by Cambridge and cannot now be activated until the veto is repealed. All federally aided highways are also subject to approval of the BPR, who also have definite ideas about route location. At present all highway planning is held up pending resolution of the Turnpike issue.

1. Turnpike extension into South Station or Western Freeway ending at Inner Belt. Will be decided very soon - issue depends on success of next attempt to sell Turnpike bonds, and of current petitions aimed at repeal of Turnpike extension act, exclusive right to build highway to the west. Turnpike would connect with Central Artery at tunnel at Kneeland St. No traffic estimates have been given. Western freeway (I-90) authorized to receive 90% federal aid - may take either B. & A.R.R. alignment or Charles River route, but must end at Inner Belt. In that event, intersection of Western freeway and Inner Belt is an unsolved problem of enormous complexity. No planning has been done for freeway since 1945. Prudential project go-ahead no longer linked to Turnpike. BCPB publicly endorsed Inner Belt and opposed

Turnpike extension in 1960 report.

2. Inner Belt (I-695) - its location through Boston and Cambridge and expecially at Charles River crossing - problems of location, access and egress and egress points, whether elevated or depressed, how to save the Fenway, and the location and design of parallel service roads at grade. Route location through Roxbury has been approved by the DPW and submitted to the BPR (this being the Ruggles-Fenway route). Eventual construction of the Inner Belt is probably not an issue. BCPB publicly endorsed the Ruggles-Fenway alignment (as early as 1950) and the staff, tunnel crossing of the Charles.

3. Southwest expressway (I-95) - whether Washington Street alignment or railroad route. In either case the relation of new highway to railroad and/or transit line must be determined. This involves determination of future role and nature of New Haven Railroad passenger service and Forest Hills-Everett MTA line, problems which are less far advanced toward solution than even the highway problems. Alignment of I-95 below Route 128 has been determined. Key issue for regional core is location of interchange with Inner Belt. Southwest expressway, Western expressway, and Inner Belt must all be planned

as one package -- one system. The first two depend on mass transit plans and all await Turnpike decision.

4. Northern expressway (I-93 - where to connect with Inner Belt. Only the alignment from Inner Belt to Medford remains to be determined. This issue does not affect Boston, but is tied to Inner Belt route determination.
5. Northwest expressway (R 2 & 3) - where to connect with Inner Belt. This route is low priority and affects Boston only indirectly. Some tough decisions must be made about alignment through Cambridge, Belmont, Arlington.
6. Other parts of the system are under construction or completed: the second harbor tunnel, the the Southeast Expressway, the Central Artery and the Worcester Pike. Below are listed lower level facilites and special problem areas.
7. Prudential connector - from Prudential site to Inner Belt or other expressway in the event Turnpike extension is not built under the Prudential site. Prudential requested this as a condition to their disassociating their project from the Turnpike and the Governor agreed verbally to provide a connector. Two possible alignments are B.& A.R.R. and N.H.R.R.

ROW. These are now "under study" by the DPW.

8. Charlesgate bottleneck between Boylston St. and Storrow Drive - whether an elevated ramp, depressed ramp or 2 one-way streets at grade, and how to connect at both ends. This facility is the responsibility of the MDC, but solution must await Turnpike and Inner Belt decision.

9. Atlantic-Dorchester Aves. connection - a new roadway in Fort Point Channel would join these two thoroughfares and thus complete the circuit around the edge of the Boston peninsula, and supplement the Central Artery. Proposed in CBD report of BCPB to release downtown of short-run through traffic. Uncertainty over who would build this facility. Improvement of Dorchester Ave. and Old Colony Blvd. also related. Question whether truck route or pleasure drive best relates to land uses here.

10. South End corridor problem - how to channel traffic through or around South End so that integrity of residential community is somehow preserved and smooth connection provided between radial expressways and the CBD. The same applies to a lesser extent to Back Bay and other inner residential areas.

11. <u>Kenmore Square and related bottlenecks</u> - some drastic reorganization of the circulation system needed here to simplify and expedite traffic movements from the west, southwest, and south. Closely tied to Inner Belt, Turnpike and Charlesgate problems.

12. <u>Central Artery - Inner Belt under-capacity</u> -- how to add capacity to Boston's inner loop distributor for cross-town movements. Apprehension that this key facility may not be able to handle the load required and perform its dual function of CBD distributor and bypass after completion of the 8 radial expressways. Proposals range from temporary ramp blocks in CBD at rush hours (to favor bypass function) to construction of a new north-south bypass expressway.

13. Circulation proposals in the <u>retail core</u>, which include conversion of Washington St. into a pedestrian mall and re-routing traffic by a new street following Essex, Kingston, Otis, and Devonshire, with other improvements for truck access.

B. <u>Mass Transportation</u>

1. <u>Future of the Commuter Railroads</u> - problem has

become a perpetual crisis. Alternatives are (a) conversion to electric rapid transit to connect to present downtown subways and eventually comprise (with MTA) a complete metropolitan system, or (b) creation of a separate system for longer distance commuting with diesel-powered cars and perhaps a common linkage at the center, or (c) continuation of present low volume, infrequent diesel-powered service to stub-end terminals as a separate system, perhaps with public subsidy. The indecision in the case of Old Colony conversion suggests the division of opinion on this question. Alternative (c) is least satisfactory for all concerned and should only be regarded as an interim solution. Alternative (a) has been favored by most transportation experts. Alternative (b) is attractive to many MTA-haters, but is stimied by problem of a downtown subway linkage. Fundamental question in any solution is how to provide financial base since a deficit operation is expected. Financial solution proposed by MTC calls for the State to pick up capital cost of rail line conversions and improvements as well as operational deficit and to defray this by making inroad into state highway funds. This would

take a constitutional amendment. Another solution is federal (or federal and state) loans and grants for transit improvement, as provided in 1961 Housing Act. Another is financing certain lines under a separate transit district (outside MTA district) to protect those towns served by new line from total MTA deficit. Present rail lines are an irreplaceable asset that could give Boston one of the best commuter systems in the world, if properly developed. The issue is whether this opportunity will be forfeited for lack of a decision.

2. <u>Long-haul Rail Passenger Service</u> -- whether inter-city service will be entirely replaced by auto, bus, and air or will continue to connect major cities. Federal aid may rescue such service from oblivion. Doubtless it is needed for certain runs, but the ICC continues to approve reductions of service and abandonment. (ICC is now considering complete abandonement of the B. & A.R.R.) Probably Boston should retain rail passenger access over main lines until after the commuter problem is solved and the long-haul problem can be assessed.

3. <u>Rapid Transit</u> - how to finance necessary capital

improvements and extensions in the face of deficit operation, declining patronage, widespread prejudice, and lack as yet of federal or state aid similar to that for highways. Also a question of priority of action. Assuming limited financing available, whether to extend transit into suburbs and thus increase patronage or improve facilities in the downtown to remove bottlenecks, blighting "el" structures, and fit in with ongoing renewal projects. Most consultants favor extensions to add essential revenue at the expense of downtown relief. However, urban renewal is occurring downtown, not in the suburbs, and some tough decisions must be made soon despite lack of means of implementation.

In 1945 and 47 the "Coolidge Commission" report proposed consolidating all existing transit under a metropolitan transit authority and extension of lines to Lynn, Reading, Woburn, Arlington, Riverside, Needham, Dedham, and Braintree. The former was done, but of the extensions, only those to Revere and Riverside have been built. Other proposals are described below.

a) <u>Old Colony</u> conversion - whether the state can now exercise its option to buy the

right-of-way at the bargain price set by the court and will be able to establish acceptable service. Under present plan Old Colony would link up with Cambridge-Dorchester line at Savin Hill, but would still be financed under a separate South Shore transit commission. Said commission is preparing a plan for transit operation at the order of Judge Anderson as prerequisite to exercise of option. This is highest priority transit issue to relieve overloaded S.E. expressway, and is still far from settled.

b) <u>Boston-Everett Line</u> extension via Malden and Wakefield to North Reading at Rte. 128 and conversion of western div. tracks of B&M from Sullivan Square north, probably including removal of "el" structure in Charlestown and extension of subway under North Station area and over river on present railroad bridge.

c) <u>Boston-Forest Hills Line</u> extension to Dedham at Rte. 128. The two main alternatives are use of 2 tracks of New Haven R.R. main line from Washington St. subway in South End to Rte. 128, or use of median strip in proposed southwest expressway from Inner

Belt to Rte. 128 (if the expressway does not follow railroad alignment). If the latter, transit north of Inner Belt could follow either Washington Street or Shawmut Ave. in a new subway, or follow New Haven to present subway terminus, but in any case, the Washington St. "el" structure would be razed. The high cost of subway construction probably makes the first alternative more feasible.

e) <u>Lechmere line</u> - proposal of MTC for removal of "el" structure from Haymarket Sq. north with new terminus at Haymarket for all PCC car operation. Service to the northwest could then be carried by branching off the Everett line (relocated through North Station) in B&M yards and following the B&M Fitchberg Div. tracks to Waltham and other lines to Arlington and Lexington. These extensions are low priority, but Gov't. Center project is forcing early decision on Tremont-Lechmere line.

f) <u>Tremont-Scollay Sq. subway</u> improvements now being planned to accommodate new loads generated by Government Center - call for a new line along Tremont with a loop at Scollay Sq. and station.improvements at

Scollay and Park St.

g) <u>Stuart-Huntington</u> proposal - to supplement Boylston subway by building new tunnel under Stuart Street from Tremont to connect with Huntington Avenue tunnel at Exeter. This would give two parallel east-west subways through Back Bay, two blocks apart, and eliminate awkward junction at Copley. A cheaper alternative to Stuart Street would be the B&A tracks from Tremont to Exeter, with possible extension of rapid transit along B&A all the way to Framingham.

h) <u>East Boston line</u> -- possible extension to Malden.

i) <u>Highland branch</u> (B&A) conversion to PCC car service between Kenmore Sq. and Riverside, completed 1959, is viewed by some the forerunner of conversion of all lines. Present PCC car lacks speed, comfort, and capacity. Eventual conversion to rapid transit would probably require use of B&A tracks instead of Boylston Street tunnel. Extension to Needham a possibility.

j) <u>B&M Main Line</u> -- possible conversion to rapid transit and extension to Framingham.

k) <u>New Haven-Needham branch</u> -- possible con-

version to rapid transit to connect with main line at Forest Hills via West Roxbury.

l) Roxbury and the South End -- improved short-haul transit service needed if Washington St. line is relocated on railroad.

m) Dorchester - Midland branch of NHRR (now freight) could be converted to rapid transit without interfering with freight movements, but would not attract many new riders.

n) Harvard Sq. Line -- possible extension to Arlington and Lexington in place of extension from No. Station.

All of the above proposals (and others not listed) are in various stages of planning by various bodies. Excepting Old Colony, none has yet received legislative authorization. Studies are going on to determine feasibility and need for some of them - others are on dead-center.

C. Goods Movement Facilities

1. Truck Terminals

Clearly there is a need for one or more consolidated truck terminals to facilitate general goods distribution throughout the

Metropolitan area, especially for "less than truck load" shipments. In 1947 the BCPB proposed that the City develop two union truck terminals, one in Charlestown near Rutherford Ave and the other in the South Bay near Southampton St. (with the latter being the larger). Subsequent development of the wholesale meat terminal in South Bay has no doubt reduced the need with respect to that type of goods. A truck terminal was proposed by the Turnpike Authority in 1960 to be built in Allston in conjunction with Turnpike extension. Currently a truck distribution center is being considered under the North Terminal Area study as a re-use for the B&M yards. Earlier a private developer proposed a truck terminal for Albany St. in the South End. The Mass. Port Authority would seem to be the agency most closely identified with trucking problems. Many industries now have their own truck terminals (fortunately located outside downtown Boston) such as the oil distribution center in Chelsea and East Boston.

2. Rail Freight Terminals

3. Port Terminal Facilities

4. Air Freight

III. Transportation Needs

Obviously the central area needs all types of transportation improvements if it is to fulfill its role of regional center. The issue is not one of transit versus highways -- both are needed. It is somewhat a question of priority of action, and here transit probably deserves highest priority because its development has lagged the most, due mainly to the broader financial base of highway development. But the main concern for the physical planner is to design an integrated system.

The categories of improvement needed for regional center transportation are as follows:

(1) A thorough modernization and conversion of rail transport facilities to serve the entire metropolitan area involving both physical and administrative reorganization and which includes:

  (a) Extension of mass transit into the suburbs mostly on existing rail rights of way.

  (b) Improvement of inner system by new subways, removal of "L" structures, and new station facilities.

  (c) New modern high-speed rolling stock, including conversion of trolley lines.

  (d) Parking at outlying terminals.

(2) Development and centralization of goods-handling terminal facilities for the metropolitan area.

(a) Truck terminals for diversified "LTL" shipments.

(b) Rail freight terminals for bulk goods shipments.

(c) Port facilities for ocean commerce and ship to shore transfer -- including also ocean passenger terminal.

(3) Highways and Streets

(a) Improvements short of physical change: correction of illegal parking and loading, signalization, channelization, directional routing, commercial vehicle restrictions, curb parking bans, staggering of work hours to reduce peak volumes, land use changes designed to achieve balance of day and night loads, off peak and night delivery of goods,

(b) Physical improvements in local streets to include channelization of traffic flow, specialization in traffic movements, access to parking, simplification to get smoother flow of movements, better visualization of movement channels, greater sagety, better structuring of land for development to produce larger more regular tracts.

(c) Development of the expressway and parkway systems, including ramps, service roads,

tunnels, and bridges. Much planning of these facilities has already been done. Responsibility for their planning and development rests largely outside the BRA, but the latter can be influential in choices between alternatives.

(d) Parking facilities

In conclusion the most useful and appropriate areas of concern for BRA regional core planners would seem to be:

(a) improvements in the local downtown street system to accommodate expected development of expressways and serve new land use patterns emerging out of the renewal program, and:

(b) improvements in rail mass transit lines and stations to accommodate expected downtown development.

APPENDIX

Statistical Material on the Regional Core
(collected but not reproduced)

1. Land area in acres by GNRP.
2. Employment by type by GNRP.
3. Population 1960 by age and sex by census tract.
4. Median rent 1960 by census tract.
5. Dwelling units 1960 by census tract.
6. Condition of housing 1960 by tract.
7. Daily person-trips generation to downtown by mode of travel. Parking inventory of downtown and CBD.

Regional Core

October 18, 1961

SUMMARY AND ISSUES IN THE REGIONAL CORE

The objective of the work in the last six weeks has been to formulate the problems, opportunities, and issues which a plan for the future Regional Core should be concerned with. The analysis was broken down into four packages: 1) the form of central Boston; 2) the location of activities; 3) the building types; 4) the transportation system. A summary of the findings in each of these packages is attached to the separate reports.

From these analyses issues evolved which will need to be resolved in the plan. (Issues assume objectives and potential solutions; they result from a conflict in objectives). These issues may be grouped around three questions:

A. What belongs in the Regional Core?

1. Issue: Dispersion VS. Concentration of metropolitan activities.

   Because of the ease of development of outlying sites, the automobile, and extensive land area requirements, activities have been dispersing. This may result in increased operating efficiency for the

activity but it also results in the under-utilization of existing public investment in the central area.

2. <u>Issue:</u> Does improved access to the Regional Core from the metropolitan area encourage activities to locate in the center <u>or</u> away from the center?

3. <u>Issue:</u> Should the Regional Core compete with the suburbs by becoming more like them <u>or</u> by emphasizing its uniqueness?

   For example, the center and suburbs compete for the same residential market, yet construction costs are much higher in the center. Should an attempt be made to provide housing at suburban costs and standards i.e. the Regional Core?

4. <u>Issue:</u> Many growing activities suitable for the Regional Core location do not contribute to the tax base of the City while occupying valuble land.

5. <u>Issue:</u> High rent-paying activities are often linked to and serviced by functions which require old, cheap space. How can the latter be accommodated in a rehabilitated downtown?

6. <u>Issue:</u> Nationally declining activities will disappear from Boston entirely if they are forced to relocate, e.g. wool, leather. Can these funcions continue to exist in their present locations without obstructing the growth and improvement of the Core?

B. What is the size and shape of the Regional Core?

1. Issue: One compact center verses several centers within the Regional Core.

   For example, should we try to bring the Back Bay and downtown business districts together; or should they be encouraged to develop separately?

2. Issue: Should growth be added to existing concentrations or should it be used to fill in the interstisces between them?

   On the one hand present investment would be preserved and essential linkages fostered; on the other, new development in the gaps could take place more easily and it would improve the appearance of the Core.

3. Issue: Clarify and stabilize the connections between areas and functions versus allow fuzzy edges to exist for growth, flexibility and change.

4. Issue: Grain of development - Superblock, surrounded by major street, containing a varity of activities versus separate use districts linked closely together by minor streets, e.g. Prudential vs. existing downtown retail and office districts.

5. Issue: How can the land area requirements of modern activities be met while at the same time the unique advantage of t

the Regional Core, i.e. its compactness (in walking-distance) is retained?

6. Issue: Which is the form builder of the Regional Core, the expressway system or the requirements of activities?

   The scale of the two is different.

7. Issue: Are expressways in the Regional Core by-pass routes or distributors?

8. Issue: Is the primary mode of arrival in the Regional Core, i.e. public transportation, suited to the desires of mode of travel of downtown functions? That is, do high-priced executives travel by transit? Are cultural activities, recreation activities and shopping reached by transit?

C. How should improvements be accomplished?

1. Issue: Conversions of existing buildings to new uses vs. clearance and construction of new buildings?

   How can we avoid waste of existing structures and facilities without freezing in obsolete street patterns and enviornmental conditions? Which is more wasteful of public and private resources in the short and long run?

2. Issue: Should we reinforce existing investment in transit, streets, buildings or create new buildings where present facilities are obsolete? Will the new centers then kill the old by competition?